




# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,903	07/30/2003	Hee Bok Kang	40296-0031	6252
26633	7590	08/24/2004	EXAMINER	
HELLER EHRMAN WHITE & MCAULIFFE LLP			DINH, SON T	
1666 K STREET,NW			ART UNIT	
SUITE 300			PAPER NUMBER	
WASHINGTON, DC 20006			2824	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/629,903	<b>Applicant(s)</b> KANG ET AL.	
	<b>Examiner</b> son t dinh	<b>Art Unit</b> 2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16, 21 and 23 is/are allowed.
- 6) ☒ Claim(s) 17, 19 and 22 is/are rejected.
- 7) ☒ Claim(s) 18 and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input checked="" type="checkbox"/> Other: <u>East search history</u> .              |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 17, 19, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Naji (U.S. Patent No 6,304,477).

With respect to claim 17, Figure 1 of Naji discloses a nonvolatile memory device comprising a flip-flop unit (22, 26, 28, 29) including a NMOS latch (22, 26) for latching data, an access controller (34 and 35) for controlling a connection of a bit line (BL, BLN) to the flip-flop unit (22, 26, 28, 29) on an enable state of a wordline (WL), and a nonvolatile resistive memory device (12, 14) connected between the flip-flop unit (22, 26, 28, 29) and the access controller (34 and 35).

With respect to claim 19, the resistive memory device 12 would be a first resistive memory device and the element 14 would be a second resistive memory device, and such resistive memory device store different values (low resistance state or high resistance state) depending on the voltage applied to the bit lines.

With respect to claim 22, transistors 21 and 25 in figure 1 of Naji would be considered as a current supply means, because when these transistors are ON, a current would be supplied to the resistive memory device (12 and 14).

***Allowable Subject Matter***

Claims 1-16, 21, 23 are allowed.

Claims 18 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fail to teach or suggest a memory device comprising a write/read controller, a nonvolatile resistive memory device coupled to receive write/read control signals from the write/read controller, and a logic switch having two or more switching states configured to select among the switching states depending on a logic value in the nonvolatile resistive memory device when the write/read signals are disabled (claims 1, 21 and 23): a connection of a nonvolatile resistive memory device between PMOS latch and NMOS (claim 7); a nonvolatile memory device comprising a flip-flop comprising NMOS and a nonvolatile resistive memory device connected between a power voltage terminal and the flip-flop (claim 12) ; a particular connection of the nonvolatile resistive memory device and the latch as recited in claims 18 and 20.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hurst, Jr. et al disclose a memory device having resistive memory device.
- Black et al disclose a memory device including a resistive memory device
- Fulkerson et al disclose a memory device having a resistive means.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son Dinh whose telephone number is 571-272-1868. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-1868.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Dinh  
August 20, 2004



Son T. Dinh  
Primary Examiner